System of Systems Integration Center

Stimulator

M&S

Test Harness

SOSIC

MILCON

SIE

Processes
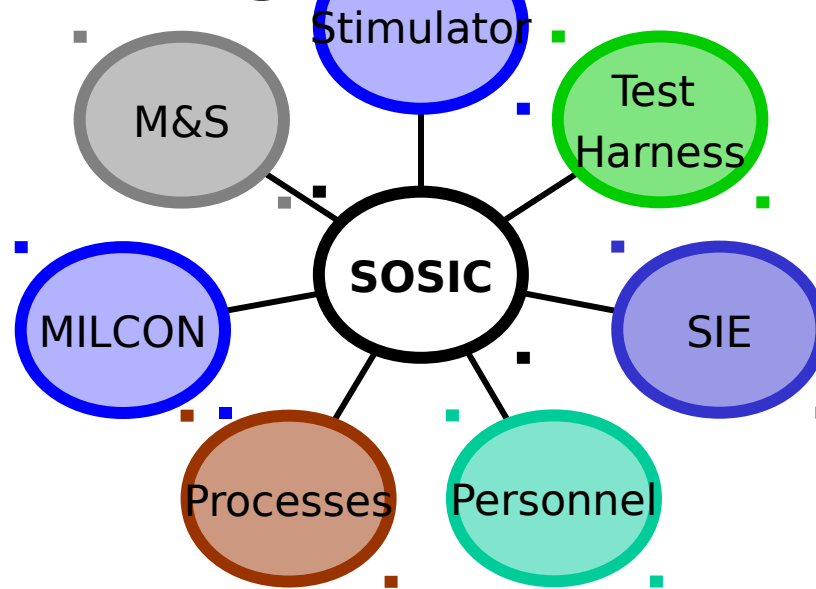
Personnel

POM-06 Program Evaluation Group

Program Office/Product Group: Col G. J. Allen
Project Officer: Mr. A. Taschner

Background

INITIATIVE DESCRIPTION

Build a **System of Systems Integration Center (SOSIC)** with its supporting environment of people, processes, equipment, and infrastructure.

The SOSIC will be the single, scalable, joint-connected Marine Corps facility configured to functionally replicate the C4I infrastructure found in a MAGTF. Based on the approved MCCDC Operational View of the Enterprise Architecture the SOSIC will have CE, ACE, GCE, CSSE, and Afloat Nodes that replicate the MAGTF Command and Control architecture. The SOSIC will be used to assess and resolve C4ISR system architecture interoperability and integration problems for the Operating Forces and Program Managers.

CAPABILITY

The System of Systems Integration Center (SOSIC) is the facility that Program Managers will use to assess System of Systems interoperability and integration during developmental and operational testing of tactical C4I systems. This facility will consist of a mature, controlled, and re-configurable MAGTF environment based on the Enterprise Architecture. SOSIC provides Program Managers and the Operating Forces with a realistic evaluation of the C4ISR systems under test. SOSIC will have connections to all Service and Joint Laboratories via the Joint Distributed Engineering Plant (JDEP) Defense Information Systems Network - Leading Edge Services (DISN-LES). This will enable comprehensive assessment of MAGTF SOS performance and interoperability. Early assessment of a system's interoperability allows decision-makers to take remedial action at <u>significantly</u> reduced cost and to minimize the negative impact to the Operating Forces.

The SOSIC supports the D-30/Force Readiness Plan, certification and compliance with FORCEnet, the integration of Marine Corps C4ISR systems with Navy Shipboard systems, and Expeditionary Maneuver Warfare development.

The Marine Corps will use the SOSIC to ensure MAGTF interoperability within a joint expeditionary warfighting environment. The SOSIC includes an ONR Node to transition science and technology initiatives into the MAGTF.

Background (Continued)

URGENCY/IMPACT IF NOT FUNDED

- The Marine Corps will continue using PMC to buy equipment that will not be used by the Operating Forces because it is not properly integrated into the Enterprise Architecture.

- MARCORSYSCOM C4I Help Desk funding will continue to increase because users will have equipment in the field that is not properly integrated.

- More and more PRIME contractors will be sent to the Operating Forces to solve interoperability problems in the field.

- The Operating Forces will increase their demand for O&M funding to mitigate their interoperability problems.

- The Marine Corps' ability to successfully conduct warfighting in Joint Vision 2020 under the FORCEnet concept and to perform Operational Maneuver From the Sea requires complete integration and interoperability assessment in the SOSIC. If the SOSIC capability is not realized, the Marine Corps will continue to field systems that are not fully integrated. The Operating Forces will continue to struggle with system interoperability, adversely affecting operational readiness. As the Marine Corps fields new systems to the Operating Forces, the need to identify and resolve integration and interoperability problems of MAGTF C4ISR systems will continue to increase. There is no single Marine Corps center to assist the Operating Forces in resolving SOS integration and interoperability problems or to certify Marine Corps systems for Joint operational use.

ADVOCATE POSITION

- SOSIC was the CEAB number 2 priority during September 2003 session. SOSIC is a Cat B ranked 28 of 52. CE-ARLlisted initiative as "Critical" placing SOSIC in top 40 initiatives. Endorsed by C4 OAG in November, 2003. CE-ARL and MRL of Jan 2004 ranked the SOSIC 24 of 46.

Background (continued)

MATURITY:

•Transform the existing SIE infrastructure into a SOSIC capability using COTS, GOTS, Engineering and Technical Support Services, and program of record resources.

•Under the Operational control of the Deputy Commander, C4ISR, the SOSIC will be the Marine Corps/ primary Integration Environment testing facility, the only Marine Corps Joint Distributed Engineering Plant (JDEP) node, Joint Participating Test Unit for tactical protocol and message certification, Missile Defense System Exerciser node, DoD Interoperability Communication Exercise site, ONR S&T test node, and primary Advanced Concept Technology Demonstration (ACTD) support site.

•Cost is based on historical data, market survey, & GSA labor rates.

AAO:

I MEF	0	SMCR	0	NALMEB	0	Other	0
II MEF	0	SPT EST	1	DMFA	0		
III MEF	0	MPF	0	WRMR	0	AAO	1

RELATED SYSTEMS: Supports all C4 systems.

ACQUISITION STRATEGY: Incremental development of MAGTF C4ISR integration and interoperability test and analysis capabilities. Transform the existing SIE infrastructure into a SOSIC capability using COTS, GOTS, Engineering and Technical Support Services, and program of record resources.

SCHEDULE: Conduct of first MAGTF System of Systems Integration test event in the new SOSIC building.   The milestone schedule is as follows.

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Milestone Schedule

SOSIC CAPABILITIES	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11
- AIR SOST THREADS ■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■								
- AIR STIM/SIM/DATA ANAL. TOOLS ■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■								
- PLI SOST THREADS ■■■■■■■■■■■■■■■■■■■■■■■■■■■■								
- PLI STIM/SIM/DATA ANAL. TOOLS ■■■■■■■■■■■■■■■■■■■■■■■■■■■■								
- FIRES SOST THREADS ■■■■■■■■■■■■■■■■■■■■■■								
- FIRES STIM/SIM/DATA ANAL. TOOLS ■■■■■■■■■■■■■■■■■■■■■■								
- FORCEnet/AFLOAT SOST THREADS ■■■■■■■■■■■								
- FORCEnet/AFLOAT STIM/SIM/DATA ANAL. TOOLS ■■■■■■■■■■■■■								
- SOSIC CMD CENTER SUPPORT ■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■								
- SOSIC TEST EVENT SUPPORT ■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■								

- SOSIC DATA COLLECTION
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Background (continued)

BUSINESS CONSIDERATIONS:

Once established, the SOSIC will provide Program Managers with a capability to shape and define the system architecture and to assess system architectural compliance under the FORCEnet operational construct. SOSIC is the Marine Corps facility that will participate in all Joint assessments and enterprise architectural evaluations.

Current estimates are based on MARCORSYSCOM initial System of Systems test experience, DoD studies, and other Services' SOSIC facilities.

Cost Drivers:

Production : facilities, equipment, and test equipment.

Operation and support: number of test events, scope of test events, infrastructure, systems refresh, test equipment refresh, maintenance, and training.

ISSUES: This does not include the cost of MAGTF programs of record that populate the SOSIC. The program managers will include tactical systems for the SOSIC in their AAO.

This initiative will buy the following:

SOSIC MILCON History

MCTSSA's MILCON P-541 has competed and failed selection for the last 10 years

Current Situation:

• Temporary trailers and shelters are being used beyond their serviceable life

• Multi-million dollar equipment is housed in this facility

• Safety hazards to personnel and equipment

The SOSIC requires a permanent facility:

• Only site in the Marine Corps that provides a systems integration environment

and

• Joint Distributed Engineering Plant

SOSIC Environment

- RDT&E is needed for the SOSIC
  - Develop test tools, simulators, and stimula
  - Develop non-intrusive test harness capabili
  - Support next-generation C4I architecture
  - Support S&T, ACTD, and emerging technology evaluations
- PMC is needed to buy **iterations** of the SOSIC, which include:
  - C4ISR support equipment.
  - Support software.
  - Equipment refresh.
  - Software refresh.
  - Infrastructure

- O&M,MC is needed to move from SIE capability level to SOSIC capability level
  - Increase test capability, capacity and fidelity
  - Augment System of Systems test capability
  - Expand SIE to entire MAGTF capability